

Remarks

This Amendment and Response is responsive to an Action mailed by the Office on September 11, 2003. Claims 38-57 are pending in the application, with claims 38, 49, 55 being independent ones. Claims 38-57 stand rejected.

In the foregoing amendments, claims 38 and 47 have been amended. Support for the amended and new claims can be found in the specification and claims of the application as filed. Applicant respectfully requests entry of the foregoing Amendments and reconsideration of the Application in light of the amendments above and the remarks below.

Claim Objections

Applicant thanks the Examiner for pointing out a typographical error in claim 47. In the foregoing amendments, Applicant has amended claim 47 to correct this error.

Claim Rejections Under 35 U.S.C. 103

I. Claims 38, 39, and 48 stand rejected under 35 U.S.C. §103(a) as being unpatentable by Massie *et al.* (U.S. Patent No. 5,898,599) in view of Chen *et al.* (U.S. Patent No. 5,709,219).

The present invention, as recited by independent claim 38, relates to an apparatus comprising a stylus, a sensor and an actuator. The stylus is configured to be manipulated against a surface and configured to be held in a hand of a user. The sensor is configured to send sensor signals to a host computer based on a manipulation of the stylus against the surface. The actuator is disposed within the stylus and configured to apply a haptic feedback from the stylus against the surface.

Massie discloses an interface device (see FIG. 8), where a user contact element or wand 802 is connected to one end of the end quarter-gimbal 804, and an actuator 812 is connected to the other end 808 of the end quarter-gimbal 804.

Chen discloses various force-feedback devices such as a slip display, trackball, roller and belt, piezoelectrically actuated device, and magnetically actuated device. As shown in FIGS. 2 through 11, these various devices are worn by the user (e.g., the glove-like structure of the slip display in FIG. 2) or touched by the fingertip of the user (e.g., the various devices shown in FIGS. 2 through 11).

Unlike the present invention as recited by claim 38, neither Massie nor Chen discloses or suggests **an actuator disposed within the stylus**. In fact, neither Massie nor Chen discloses or suggests **a stylus configured to be held in a hand of a user**. Thus, the invention as recited in independent claim 38 is not disclosed in or suggested by Massie combined with Chen. For at least those reasons, independent claim 38 is allowable. Based on their dependence upon independent claim 38, dependent claims 39 and 48 are also allowable. Applicant respectfully requests that the rejections be withdrawn.

II. Claims 40, 41, 44, and 45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Berkson *et al.* (U.S. Patent No. 5,627,348).

The present invention, as recited by dependent claims 40, 41, 44 and 45, depends from independent claim 38, and therefore is allowable for at least the reasons that independent claim 38 is allowable as discussed in Section I above. Accordingly, Applicant respectfully requests that the Examiner remove the rejection of claims 40, 41, 44, and 45.

III. Claims 42 and 43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Van Namen (U.S. Patent No. 5,896,076).

The present invention, as recited by dependent claims 42 and 43, depends from independent claim 38, and therefore is allowable for at least the reasons that independent claim 38 is allowable as discussed in Section I above. Accordingly, Applicant respectfully requests that the Examiner remove the rejection of claims 42 and 43.

IV. Claims 46 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Berkson and further in view of Van Namen.

The present invention, as recited by dependent claims 46, depends from independent claim 38, and therefore is allowable for at least the reasons that independent claim 38 is allowable as discussed in Sections I above. Accordingly, Applicant respectfully requests that the Examiner remove the rejection of claim 46.

V. Claims 47, 49-53, and 55-57 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Gray *et al.* (U.S. Patent No. 5,571,997).

The present invention, as recited by dependent claims 47, depends from independent claim 38, and therefore is allowable for at least the reasons that independent claim 38 is allowable as discussed in Section I above. Accordingly, Applicant respectfully requests that the Examiner remove the rejection of claim 47.

The present invention, as recited by independent claim 49, relates to an apparatus comprising a stylus, a sensor and an actuator. The sensor is in communication with a host computer. The sensor is also configured to detect a movement of the stylus. The actuator is coupled to the stylus and configured to vibrate at a high frequency so that a modulated force is applied to the stylus.

Gray discloses a pressure sensitive pointing device or pen for transmitting signals to a tablet. The device incorporates a variable reluctance circuit responsive to the force exerted on the pen point and converts that force into a corresponding modulation in the output frequency (see col. 7, lines 40-48). In other words, the force exerted on the pen point by the user is converted into an output signal sent to the tablet (see col. 3, lines 52-61); the frequency of the output signal is modulated based on the force exerted on the pen point by the user.

Unlike the present invention as recited by independent claim 49, neither of Massie, Chen and Gray discloses or suggests **an actuator coupled to the stylus, or an actuator configured to vibrate at a high frequency so that a modulated force is applied to the stylus.** In fact, Massie, Chen and Gray are entirely silent about an actuator being coupled to a stylus at all. Thus, the invention as recited in independent claim 49 is not disclosed in or suggested by Massie combined with Chen and Gray. For at least those reasons, independent claim 49 is allowable. Based on their dependence upon independent claim 49, dependent claims 50-53 are also allowable. Applicant respectfully requests that the rejections be withdrawn.

Furthermore, unlike the present invention as recited by independent claim 55, neither of Massie, Chen and Gray discloses or suggests **applying a modulated force from an actuator to the stylus in response to the movement signal, or the modulated force being associated with a high-frequency vibration.** Thus, the invention as recited in independent claim 55 is not

disclosed in or suggested by Massie combined with Chen and Gray. For at least those reasons, independent claim 55 is allowable. Based on their dependence upon independent claim 55, dependent claims 56-57 are also allowable. Applicant respectfully requests that the rejections be withdrawn.

IV. Claim 54 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Gray and further in view of Van Namen.

The present invention, as recited by dependent claims 54, depends from independent claim 49, and therefore is allowable for at least the reasons that independent claim 49 is allowable as discussed in Section V above. Accordingly, Applicant respectfully requests that the Examiner remove the rejection of claim 52.

CONCLUSION


All of the claims are in condition for allowance. Applicants believe that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

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